

**REMARKS/ARGUMENT****Regarding the Claims in General:**

Claims 2-15 are remain pending, claim 1 having previously been canceled. Claims 2 and 15 have been amended to address the rejections under 35 U.S.C. 112 as discussed below. Claims 3-14 remain unchanged.

**Regarding the Rejections Under 35 U.S.C. 112:**

The Examiner has criticized the use of the term "special services" in claims 2 and 15. Reconsideration is respectfully requested.

The term "special services" was intended as a shorthand distillation of the functionality of the invention as described at page 1, lines 6 and 7, and 31-34, and at page 2, lines 4-14. As explained in the cited text, the invention allows provision of non-standard services, i.e., beyond simple making and receiving calls and short text messages, when a subscriber travels outside his home network. Such services, which are not provided for in the international standards for mobile telephony, are typically arranged for by a subscriber in his or her home network. These services can often be provided to the subscriber outside his or her home network, but only if the foreign network knows that the subscriber is there.

It is important to understand that under existing international standards, existing equipment which records the presence of an out of network subscriber for purposes of providing *standard* services, can not be used also as a basis for providing non-standard service. Hence, the need for the present invention.

It is respectfully submitted that the term "special", though not present in the specification, aptly describes these non-standard service, and would not constitute new matter. Nevertheless, to advance the prosecution, claims 2 and 15 have been amended to adopt terminology derived directly from the above-quoted portions of the specification. If the Examiner still has concerns, he is respectfully requested to suggest acceptable terminology.

**Regarding the Prior Art Rejections:**

In the outstanding Office Action, claims 3, 8, and 15 were rejected as being unpatentable over Joss et al. U.S. Patent 6,684,073 (Joss) in view of McCombe British Patent 2,280,085

(McCombe) and McCann et al. U.S. Published Application 2001/0029182 (McCann), claims 2, 5-7, 9, 10, and 12-14 were rejected as being unpatentable over Joss in view of McCombe and McCann, and further in view of Nilsson WO 01/10109 A2 (Nilsson), claim 4 was rejected as being unpatentable over Joss in view of McCombe and McCann, and further in view of Yamaguchi et al. U.S. Patent 6,002,931 (Yamaguchi), and claim 11 was rejected as being unpatentable over Joss in view of McCombe, McCann, and Yamaguchi, and further in view of Nilsson. Applicants respectfully request reconsideration and withdrawal of these rejections.

In all of the rejections, Joss is the principal reference. Joss defines a signalling mechanism designed to permit basic roaming services (e.g., voice calling) between networks that do not have an agreement, and for which mobile telecommunication standards do not provide the necessary functionality. Joss describes a conversion device (or a sort of gateway), but as indicated before, its main function or objective is to allow roaming.

In contrast, the present invention does not aim at providing basic roaming services in a foreign network (as shown in Joss), but is intended for use in a system in which that basic functionality is already provided for in the standards. The present invention enables the system to provide additional services beyond the "basic" ones which have been contracted for by a subscriber in his or her home network, when that subscriber is in a foreign network.

Nor are McCombe or McCann pertinent to such an application. McCombe discloses a method for permitting roaming service in mobile networks using different technologies, and defines a method to route calls to a user who is visiting a network with a technology which is different from his/her home network. Its concern is also just with basic services.

McCann describes a process for facilitating the portability of mobile network subscribers. It describes a gateway which intercepts and redirects signalling directed to the HRLs, when the intended subscriber has been ported in or out of a service area. This improves efficiency of the operation of the HLR by relieving it of unnecessary work. It also facilitates balancing the load between HLRs in a network. McCann does not mention non-standard roaming services and does not disclose, teach, or suggest a gateway which intercepts all signaling messages with other networks (as in the present case) in order to know in which network a subscriber is located.

Claim 15 recites various features directed to achievement of the functionality of the present invention which are not disclosed, taught or suggested in the references, either singly or in combination. In particular, claim 15 is directed to a system for tracking mobile telephone subscriber

units to permit provision of specific services which are not provided for in general mobile telephony standards but which are contracted for by said subscriber in his or her home network, when the subscriber is in a foreign network. The foregoing alone is not disclosed, taught or suggested in the references.

Further, the system as claimed comprises:

a data processing unit connected between the gateway and the home network,

a data analysis unit coupled to the data processing unit;

a second data storage unit coupled to the data processing unit; and  
a contracted service module;

said data processing unit being operative to detect, on the basis of information circulating through the gateway, the signaling parameters including the indication of entrance and exit of the one or more mobile subscribers in and from the respective foreign network, the data regarding the foreign network and the data regarding the mobile subscriber,

the data processing unit further being operative to separate and send the detected signaling parameter data to the data analysis unit,

the data analysis unit being operative to identify subscribers of the associated home network entering and exiting a foreign network, and to generate identifying data regarding the foreign network and the mobile subscribers in the foreign network,

the data analysis unit being further operative to provide the identifying data generated thereby to the second data storage unit,

the second data storage unit being operative to store the identifying data,

the contracted service module being responsive to the identifying data stored in the second data storage unit to provide contracted for services to the mobile subscribers in the foreign networks.

This combination of features is not disclosed, taught or suggested in the cited references, as demonstrated by the following analysis of the Examiner's specific comments, in which the underlined text refers the Examiner's assertions in the Office Action:

*Joss:*

The HLR keeps track of location of roaming subscribers (Col. 2, lines 14-16):

The HLR does store information regarding the VLR in which a subscriber is located, both if the VLR belongs to a local or a foreign network. This is defined by the GSM standard. But a mobile network usually has several HLRs. The GSM standard does not define any method for accessing the information stored in the HLRs in a centralized way, and Joss does not provide such a way. Such information is needed to offer services which are not defined by the standard.

According to claim 15, by checking the exchange of information between all the HLRs of the local network and the VLRs where specific roaming subscribers have been located, provides the needed information.

Further, Joss' HLRs store the VLR in which the respective subscribers are located, both if they are using the local network or a foreign network. The claimed second data storage unit only stores information regarding subscribers which are in a foreign network.

Forwarding calls to a mobile terminal is a special service (Col. 1, lines 44-48):

This is technically incorrect. Such functionality is considered to be a service defined by the GSM standard. The "nonstandard services" provided according to the present invention are ones not defined in the standard. It should be noted that the HLR is a node defined in the GSM standard, which is specialized in basic mobile services (among which is the "receive/make calls" service), and the HLR is therefore vital in GSM. For this reason, the HLR is not adapted for advanced non-standardized services as a practical matter, and one skilled in the art would not for a moment consider altering this basic system function for non-standard usage.

Conversion device (Fig. 1, 3 and col. 5, lines 14-16):

Joss does include a conversion device (3). In fact, mobile networks are usually connected to each other by means of gateways. As indicated above, Joss provides gateways which permit subscribers to access networks which do not have an agreement with their home network.

The gateways in claim 15 are existing conventional element which, as indicated, enable the connection of the local network to foreign networks. As claimed, signalling going through these gateways is used to obtain the information exchanged between HLRs of the local network with the VLRs of foreign networks. Unlike, Joss, the present invention just "listens to" this exchange of

information in order to detect entries/exits, without carrying out any modification or conversion, nor implementing any additional functionality.

Converts data from one network into the appropriate protocol data units so the data may be forwarded to another network (Col. 7, lines 26-34):

The present invention does not do any protocol conversion or modification of the information exchanged between HLRs and VLRs. It listens to that signaling so as to detect entries/exits of roaming subscribers.

Data stored in the VLR, i.e. foreign network, is sent to the IMSI identifying a subscriber is data regarding the mobile subscriber (Col. 2, lines 1-16):

The standard defines how the VLRs must notify the HLRs when a subscriber is located within the area covered by that HRL. The present invention uses this information to update its own separate database. The stored data includes subscriber identity, the VLR identifier and the visited network.

HLR has a CPU ( Fig. 1, 4):

The present invention does no processing per se. Instead, it simply extracts the information it needs. Joss modifies the signalling to adapt it to the requirements of the connected networks. "Processes" in the context of claim 15 obviously means "listens to".

[Joss'] inherent CPU has software for analyzing (Fig. 1, 4):

The claimed analysis function is just detection of events i.e., entries/exits of subscribers in/from foreign networks. Joss has a completely different function unrelated to that claimed.

Conversion module, i.e. gateway, permits information to go from one network to another (Col. 7, lines 26-34):

The system of claim 15 does not "permit" the exchange of information; this is done by the gateways, which connect different networks (international gateways). As mentioned above, the system just listens to the information circulating over the gateways.

The HLR keeps track of location of roaming subscribers, i.e. entering and exiting the foreign network (Col. 2, lines 14-16):

The HLRs store information for all assigned subscribers, both if they are roaming or in the home network. The claimed second data storage unit just stores information for roaming subscribers, and then, only information it needs (i.e., subscriber identifier and identifier of the visited VLR). Further, the storage is centralized, not distributed among the different HLRs of the network. This makes it possible to implement non-standard functionalities.

... the combination is silent on:

The system of the present invention does not modify the standardized information exchanged between HLRs and foreign VLRs. It only uses that information to update a database of subscribers who are in a foreign network (that is, subscribers which are located in a foreign VLR), as well as the VLR and the identifier of the visited network.

Also, as pointed out above, by checking the signalling between HLRs and VLRs, the claimed system is capable of detecting an entry/exit event in or out of a foreign network. This information is used to offer non-standardized services. Therefore, the claimed system does not replicate information which is already stored in other systems.

*McCombe:*

Pg. 10, lines 4-10, A, B, C:

Mobile networks are, of course, connected to other networks and permit roaming subscribers to access other networks, usually foreign networks. But the claimed system is not concerned with the roaming functionality (as defined in the standards). Its purpose is to provide roaming users with non-standard services. This is completely outside the scope of McCombe.

Setting up a communications link is a special service which allows a person to communicate with another person wirelessly (Pg. 19, 9-11):

Again, McCombe is not concerned with non-standardized services.

Processing calls and charging for calls made are special services (Pg. 14, lines 19-26):

These are *standard* services. For the Examiner to say otherwise, ignores the reality of the industry and the knowledge of those skilled in the art

*McCann:*

Fig. 8, 116:

The system of the present invention is not intended to replicate the functionality of the HRL. It aims at offering services that could not be implemented in the HLRs. The second HLR in McCann is there to reduce the other HLR's workload, thereby permitting a balance in the workload between them. The present invention has nothing to do with this.

Data can be stored in the first or second HLR (Par. 13, lines 1-6):

As indicated above, the claimed system does not store the same information as an HLR.

From the foregoing, it should be clear that a person skilled in the art would not consider it obvious even to attempt to adapt the signalling method and conversion device of Joss to carry out the additional functionality of the present invention, and that nothing in the secondary references (McCombe and McCann) would either motivate such an attempt or suggest how to go about doing so. In sum, there is no legitimate basis for combining the teachings of the references to provide for detecting the identity of a subscriber accessing a foreign network, and for using such the information detected, to provide additional contracted for services beyond the "basic" ones, (i.e. voice calls), to roaming subscribers.

Claim 15 should accordingly be allowed.

Claims 2-14 are either directly or indirectly dependent on claim 15, and should be allowed for all the reasons stated above. In addition, these claim recite features which, in combination with the features of their respective parent claims are neither taught nor suggested in the references, whether considered singly, or in combination.

In view of the foregoing, favorable reconsideration and allowance of this application are respectfully solicited.

I hereby certify that this correspondence is being transmitted by Facsimile to (571) 273-8300 addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date indicated below.

Respectfully submitted,

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